



## CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

October 20, 1997

### **H.R. 1270** **Nuclear Waste Policy Act of 1997**

*As ordered reported by the House Committee on Resources on October 8, 1997*

#### **SUMMARY**

H.R. 1270 would amend the Nuclear Waste Policy Act by directing the Department of Energy (DOE) to begin storing spent nuclear fuel and high-level nuclear waste at an interim facility in Nevada no later than January 31, 2000. The bill would direct DOE to continue site characterization activities at the proposed permanent repository site at Yucca Mountain, also in Nevada. Title IV would modify how the nuclear waste program is funded after 1998.

Assuming appropriation of the necessary amounts, CBO estimates that implementing H.R. 1270 would cost about \$4.0 billion over the 1998-2002 period. We also estimate that about \$1.7 billion of this cost would be offset by collections from nuclear electric utilities, so that the net authorization of appropriations under H.R. 1270 would be about \$2.3 billion over the five-year period. In addition, enacting the bill would affect direct spending; therefore, pay-as-you-go procedures would apply. Specifically, the bill would increase offsetting receipts in 2002 and reduce them in all other years beginning in 1999. CBO estimates that the net change in direct spending over the 1998-2002 period would be a reduction in outlays (that is, a net increase in offsetting receipts) of about \$0.2 billion.

H.R. 1270 contains intergovernmental mandates as defined in the Unfunded Mandates Reform Act of 1995 (UMRA). CBO estimates that these mandates would impose costs on state governments exceeding the threshold established in the law. (UMRA set a threshold of \$50 million for 1996, adjusted annually for inflation).

CBO has identified private-sector mandates in the bill that would accelerate the payment of certain fees by private nuclear utilities and impose new training standards and requirements on workers. CBO estimates that, in 2002, the direct costs of these private-sector mandates would exceed the statutory threshold established in UMRA (\$100 million in 1996, adjusted annually for inflation). Because the bill would direct the federal government to begin storing nuclear waste at an earlier date than is now anticipated, the direct costs of these new mandates could be at least partially offset by savings to private nuclear utilities that would no longer have to pay for such storage.

## **ESTIMATED COST TO THE FEDERAL GOVERNMENT**

H.R. 1270 would affect direct spending in each year, beginning in 1999, by ending the existing mandatory nuclear waste fee, which is currently set at a rate of 1 mill (one-tenth of one cent) per kilowatt-hour (kwh) of electricity sold by operators of nuclear powerplants. Forgone receipts from ending the mandatory fee would total about \$630 million annually beginning in 1999. Income from this fee would be replaced, at least in part, by receipts from fees linked to the amount of spending from the nuclear waste fund, as discussed below. In addition, section 401 would result in an increase in offsetting receipts in 2002 because it would require certain utilities to make a one-time payment of nuclear waste fees to the government—totaling about \$2.7 billion—before the end of fiscal year 2002. Under current law, this payment is not expected to be made until 2010 or later.

CBO estimates that building and operating an interim storage facility and continuing the study of the Yucca Mountain site as authorized by the bill would require gross appropriations of \$4.0 billion over the 1998-2002 period. Based on the requirement in section 401(b)(4) of the bill, and on information from the Department of Energy, CBO estimates that the bill would authorize appropriations of about \$2.3 billion, largely to pay for the program costs that are attributable to the disposal of nuclear waste resulting from U.S. defense operations. The remaining \$1.7 billion in estimated funding for the nuclear waste program over the 1998-2002 period would be covered by fees charged to the nuclear utility industry, as provided in section 401(a)(2) of the bill. Thus, the estimated net authorization under H.R. 1270 would be about \$2.3 billion over the next five years.

The estimated budgetary impact of H.R. 1270 over the 1998-2002 period is shown in the following table. The costs of this legislation fall within budget functions 050 (defense) and 270 (energy).

## **BASIS OF ESTIMATE**

This estimate is based on DOE's program plan issued on May 6, 1996, and on information from the department concerning the costs of an interim storage facility. For purposes of the estimate, CBO assumes that H.R. 1270 will be enacted early in fiscal year 1998, and that the department will proceed to develop an interim storage facility in Nevada to accept waste beginning in fiscal year 2000, as authorized by the bill. We assume that following the assessment of the viability of the Yucca Mountain site as a permanent waste repository, DOE, in 2002, would apply for a license from the Nuclear Regulatory Commission (NRC) to construct a permanent nuclear waste repository there, as detailed in the May 6, 1996, nuclear waste program plan.

	By Fiscal Year, in Millions of Dollars					
	1997	1998	1999	2000	2001	2002
<b>CHANGES IN DIRECT SPENDING</b>						
Changes in Offsetting Receipts from the						
Nuclear Waste Fees						
Estimated Budget Authority	0	0	630	630	630	-2,070
Estimated Outlays	0	0	630	630	630	-2,070
<b>SPENDING SUBJECT TO APPROPRIATION</b>						
Spending on the Nuclear Waste Program						
Under Current Law						
Budget Authority <sup>a</sup>	382	0	0	0	0	0
Estimated Outlays	375	38	0	0	0	0
Proposed Changes						
Estimated Authorization Level	0	555	1,000	940	855	640
Less: Offsetting Collections	<u>0</u>	<u>0</u>	<u>-625</u>	<u>-565</u>	<u>-480</u>	<u>0</u>
Net Authorization Level	0	555	375	375	375	640
Estimated Outlays	0	448	203	357	407	713
Net Spending for the Nuclear Waste Program						
Under H.R. 1270						
Estimated Authorization Level <sup>a</sup>	382	555	375	375	375	640
Estimated Outlays	375	486	203	357	407	713

a. The 1997 level is the amount appropriated for that year.

## Direct Spending

Starting in fiscal year 1999, section 401(a)(2) would limit the aggregate fees the government charges each year to electric utilities for disposal of nuclear waste to no more than the amount appropriated from the nuclear waste fund that year. CBO estimates that, under current law, income from these fees would total \$630 million annually over the 1998-2007 period and would decline in subsequent years as nuclear power plants are decommissioned. Because H.R. 1270 would make annual fees dependent on future appropriations action after 1999, CBO cannot assume their collection for the purpose of estimating the budgetary impact of the bill. Therefore, we estimate that the bill would cause a loss of offsetting receipts (that is, an increase in direct spending) of \$630 million a year from 1999 through 2007, and of smaller amounts in subsequent years.

Section 401(a)(3) would result in an earlier payment by utilities to the government of about \$2.7 billion in one-time nuclear waste disposal fees. The bill would require these fees to be paid no later than the end of fiscal year 2002. Utilities that fail to make these payments in 2002 would have their nuclear operating permits suspended by the Nuclear Regulatory Commission. Under current law, these one-time fee payments, along with accrued interest, are due prior to the delivery of nuclear waste to a government storage or disposal facility. Currently, DOE does not expect such a facility to be available until 2010 or later. Thus, the bill would accelerate the payment of these one-time fees by at least eight years. While this change would result in budgetary savings in 2002, the government would derive no significant benefit over the long run because it would otherwise receive the same amount later, with interest.

In sum, CBO estimates that enacting the bill would decrease direct spending by \$2.7 billion in 2002 (from the receipt of one-time fees), but would more than offset that change by increasing direct spending by \$5.7 billion over the 1999-2007 period (by eliminating mandatory annual fees), for a net increase in direct spending of \$3.0 billion over the 1999-2007 period.

### **Spending Subject to Appropriation**

**Yucca Mountain.** H.R. 1270 would direct DOE to proceed with its Civilian Radioactive Waste Management Program Plan of May 1996. This plan calls for continuing to evaluate the Yucca Mountain site as a permanent repository for nuclear waste, and applying in 2002 for a license from the NRC to construct a repository, if the site appears to be viable for this use. Based on information from DOE, we estimate this effort would cost an average of about \$335 million annually over the 1998-2002 period. Additional costs would be incurred after 2002 to construct and operate a nuclear waste repository at Yucca Mountain if the NRC issues a license to the department.

**Interim Storage Facility.** The bill would require DOE to design and develop an interim nuclear waste storage facility at the Nevada test site. Based on information from DOE, we estimate the gross costs of building, operating, and transporting nuclear waste to the Nevada facility would be about \$2.3 billion over the 1998-2002 period, including \$85 million appropriated in 1996. (Spending from the existing \$85 million appropriation is contingent upon enactment of an authorization of an interim nuclear waste repository, such as H.R. 1270.)

A large portion of the costs would be for shipping the nuclear waste to the interim facility because the federal government would be responsible for all costs for transporting the waste

from nuclear reactors to the facility by rail and heavy-haul trucks. Procurement of special shipping casts and waste storage canisters would account for most of the initial transportation costs. Based on information from DOE, CBO estimates that gross costs for waste transportation would total \$1.4 billion over the 1998-2002 period. This amount includes \$10 million annually over the 1998-2001 period for grants to state, local, and tribal governments for emergency transportation planning and training of public safety personnel along routes used to ship waste to the Nevada facility.

The facility would be built in two phases and designed to accept up to 50,000 metric tons of uranium. Initially, the facility would be designed to accept nuclear waste in special storage canisters; later it would accept fuel without canisters. Estimated costs include annual payments to both Lincoln and Nye counties in Nevada, of \$2.5 million each before the first shipment of waste, and \$5 million each after waste shipments begin, as authorized by section 303.

Additional costs would be incurred after 2002 to complete and operate the interim waste facility as authorized by the bill. These costs, including the cost of transporting the waste, would be about \$1 billion from 2003 through 2006.

**Other Authorizations.** Section 507 would direct the NRC to establish regulatory guidance for the training and qualifications of nuclear power plant personnel. This authorization could result in an increase in the NRC's workload, but would not result in a net cost to the government because the NRC recovers all costs of regulating the nuclear industry through user fees.

Section 510 would require DOE to compensate landowners when the value of their property has been diminished by actions taken under the Nuclear Waste Policy Act. If the value of the land were diminished by at least 50 percent, DOE would be required to offer to purchase the land. If the value of the land were diminished by at least 20 percent, DOE would be required to provide compensation to the landowner. CBO estimates that the cost of this provision would be negligible. There is little nonfederal property in the vicinity of the Yucca Mountain site or the proposed interim repository at the Nevada test site and, in general, this property does not have a high market value. The potential cost of compensating property owners under this bill is uncertain, however, and would depend on a number of unknown factors, including how this provision would be interpreted by DOE and others.

Section 602 would authorize continuation of the oversight activities of the Nuclear Waste Technical Review Board. Based on the board's ongoing work, CBO estimates this agency would spend about \$3 million annually over the 1998-2002 period, assuming appropriation of the necessary amounts.

**General Fund Appropriations and Nuclear Waste Fees.** Under the nuclear waste program, DOE is charged with disposing of both spent fuel from commercial nuclear reactors in the United States and certain high-level nuclear waste generated by its own atomic defense program. H.R. 1270 would authorize the appropriation of such sums as are necessary to pay for the expenses of the nuclear waste program that are attributable to the disposal of DOE's defense-related wastes. In addition, the bill would not allow DOE to store or dispose of such waste at an interim storage facility or nuclear waste repository that would be developed under this bill unless DOE receives appropriations from the general fund of the Treasury to pay the costs attributable to its defense-related waste. (Fees paid by the utilities would cover the remaining costs.)

Based on information from the DOE, it appears that, to date, the department has not received general fund appropriations to pay all of its share of the program costs. At the end of 1996, DOE estimates that the unpaid outstanding balance of program costs was about \$1.3 billion, including interest on amounts not appropriated. Over the 1998-2002 period, CBO estimates DOE's share of program costs will continue to grow at about \$100 million annually. An annual appropriation of about \$375 million over the 1998-2002 period would eliminate DOE's outstanding balance and keep its share of program costs current through 2002.

Hence, for the purposes of this estimate, CBO assumes that part of the five-year cost of the nuclear waste program—\$375 million over the 1998-2002 period—would be paid for through appropriations from the general fund of the Treasury. The remaining costs under the bill would be paid through appropriations from the nuclear waste trust fund, and, except in 2002, would be offset by collections from nuclear electric utilities, which we estimate would total \$1.7 billion over the 1999-2001 period. Under the bill, annual fees would not be collected in the year when the one-time fee is received from nuclear utilities—which we assume will be 2002.

Fees paid by the utilities could cover more of the costs if a greater share of the funding were derived from the nuclear waste trust fund. H.R. 1270 would authorize collections from nuclear electric utilities that would depend on the amount appropriated from the trust fund. These charges could not exceed 1 mill per kwh of electricity sold in any year. CBO estimates that a fee of 1 mill per kwh—the current rate—would yield about \$630 million annually. Thus, it would be possible to fund more of the nuclear waste program authorized by this bill through annual fees—without reducing the current rate charged to utilities—than we have assumed for purposes of this estimate.

## PAY-AS-YOU-GO CONSIDERATIONS

The Balanced Budget and Emergency Deficit Control Act of 1985 specifies pay-as-you-go procedures for legislation affecting direct spending or receipts. The projected changes in direct spending are shown in the table below for fiscal years 1998 through 2007. For purposes of enforcing pay-as-you-go procedures, however, only the effects in the budget year and the succeeding four years are counted.

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### Summary of Effects on Direct Spending and Receipts

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	By Fiscal Year, in Millions of Dollars									
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Changes in outlays										
Annual nuclear waste fee	0	630	630	630	630	630	630	630	630	630
One-time nuclear waste fee	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>-2,700</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	0	630	630	630	-2,070	630	630	630	630	630
Changes in receipts	Not applicable									

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CBO estimates that enacting H.R. 1270 would increase direct spending by about \$630 million annually over the 1999-2007 period, and that these increases in annual spending would be partly offset by payments of about \$2.7 billion in 2002.

## ESTIMATED IMPACT ON STATE, LOCAL, AND TRIBAL GOVERNMENTS

### Mandates

H.R. 1270 contains intergovernmental mandates as defined in UMRA. CBO estimates that these mandates would impose costs on state governments exceeding the threshold established in the law. (UMRA set a threshold of \$50 million for 1996, adjusted annually for inflation.)

Enactment of this bill would accelerate the payment of certain fees by nuclear utilities, including one publicly-owned utility. The bill also would impose new training standards and requirements for workers at all nuclear utilities, a few of which are publicly-owned. Because the bill would direct the federal government to begin storing nuclear waste earlier than is now anticipated, nuclear utilities would realize a savings because they would no longer have to store the waste themselves.

**Utilities.** The New York Power Authority (NYPA)—a publicly owned utility—has chosen the option, available under current law, to delay payment of a one-time disposal fee and to pay the federal government the required additional interest. (Under current law, this payment would be made in 2010 or later, when DOE opens a permanent storage facility to accept nuclear waste.) H.R. 1270 would require NYPA to pay this fee to the government before the end of fiscal year 2002. CBO estimates that the direct cost of the mandate would be the amount NYPA would be required to pay in 2002, or about \$180 million.

The net, long-term cost to NYPA would be much less because it would no longer have to make a payment of \$180 million plus interest in 2010 or later. Its costs would also be partially offset by any savings in storage costs that would accrue to NYPA when the interim storage facility begins accepting nuclear waste.

CBO estimates that the added costs of complying with the mandate for training workers would be minimal.

**State of Nevada.** By directing DOE to construct and operate an interim storage facility, H.R. 1270 would probably increase the cost to the state of Nevada of complying with existing federal requirements. CBO cannot determine whether these costs would be considered the direct costs of a mandate as defined by UMRA.

Based on information provided by state officials, CBO expects that state spending would increase by as much as \$30 million per year until shipments to the facility begin (assuming that they begin in fiscal year 2000) and \$5 million per year between that time and the time that the permanent facility at Yucca Mountain begins operations. This additional spending would support a number of activities, including emergency response planning and training, escort of waste shipments, and environmental monitoring. In addition, spending by Nevada counties for similar activities would probably increase, but by much smaller amounts. Not all of this spending would be for the purpose of complying with federal requirements.

These costs are similar to those that the state would eventually incur under current law as a result of the permanent repository planned for Yucca Mountain. DOE currently does not expect to begin receiving material at a permanent repository until at least 2010, while H.R. 1270 would require that it begin to receive material at an interim facility in fiscal year 2000. As a result, the state would have to respond to the shipment and storage of waste at least ten years sooner than under current law. Further, the state's costs would increase because it would have to plan for two facilities.



## **Other Impacts**

**Federal Payments to State and Local Governments.** H.R. 1270 would direct DOE to make cash payments and convey parcels of land to Nye County, Nevada, and Lincoln County, Nevada. Each would receive payments of \$2.5 million in each year before waste is shipped to the interim facility and \$5 million each year after shipments begin. In addition, the bill identifies several parcels of land that DOE would convey to those counties and to the city of Caliente, Nevada.

The state of Nevada and local governments within the state might lose payments from the federal government if H.R. 1270 is enacted. The bill would delete much of section 116 of the Nuclear Waste Policy Act, which authorizes payments to the state of Nevada and to local governments within the state. Section 116 currently authorizes DOE to make grants to these governments to enable them to participate in evaluating and developing a site for a permanent repository and to offset any negative impacts of such a site. H.R. 1270 would authorize payments only to Nye County to pay for an on-site representative of the county.

In recent years, the Congress appropriated amounts ranging from \$12 million to \$15 million per year under this section for Nevada and for local governments in the state. Since fiscal year 1997, however, the Energy and Water Development Appropriations Act has prohibited DOE from making any such payments to the state or to local governments.

## **ESTIMATED IMPACT ON THE PRIVATE SECTOR**

CBO has identified a private-sector mandate in the bill that would accelerate the payment of certain fees by private nuclear utilities. CBO estimates that the direct cost of this private-sector mandate in 2002 would exceed the statutory threshold (\$100 million in 1996, adjusted annually for inflation) established in UMRA. Because the bill would direct the federal government to begin storing nuclear waste at an earlier date than is now anticipated, the direct cost of this new mandate could be at least partially offset by savings to private nuclear utilities that would no longer store the waste themselves.

Thirteen privately owned nuclear utilities have chosen the option, available to them under current law, to delay payment of certain one-time disposal fees and to pay the federal government the required additional interest. Under current law, such payments would be made when DOE opens a permanent storage facility to accept nuclear waste, expected to be some time after 2010. H.R. 1270 would require nuclear utilities to accelerate payment of those fees to the government before the end of fiscal year 2002. CBO estimates that the

direct cost of the mandate would be the amount utilities would be required to pay in 2002, or \$2.5 billion.

The net, long-term cost to utilities would be much less because they would no longer have to make a payment of \$2.5 billion plus interest in 2010 or later. Their costs would also be partially offset by any savings in storage costs that would accrue to the utilities when the interim storage facility begins accepting nuclear waste.

## **PREVIOUS CBO ESTIMATE**

On September 25, 1997, CBO prepared a cost estimate for H.R. 1270 as ordered reported by the House Committee on Commerce on September 18, 1997. The principal difference between the versions of H.R. 1270 ordered reported by the Committee on Resources and the Commerce Committee is the required opening date of the interim storage facility. Under the Resources Committee's version of the bill, the facility would begin receiving waste in 2000, while under the Commerce Committee's version of the bill, the facility would not open until 2002. The cost estimates for the two versions of the bill reflect the timing change and other differences between them. Over the 1998-2002 period, DOE would incur additional construction and operations costs under the Resource Committee's version of the bill that would not be spent until after 2002 under the Commerce Committee's version.

On March 21, 1997, CBO prepared a cost estimate for S. 104, the Nuclear Waste Policy Act of 1997, as ordered reported by the Senate Committee on Energy and Natural Resources on March 14, 1997. The cost estimates for S. 104 and H.R. 1270 reflect the different time schedules in these bills, and the different treatment of the annual nuclear waste fee by each bill.

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